# State of Wyoming Compressor Station and Pipeline Emissions Inventory Instructions

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## 1. General Inventory Information

a) Use this inventory form to calculate emissions from any oil and gas facility in the state of Wyoming that cannot be associated with an American Petroleum Institute (API) number. (i.e. compressor stations, gas processing facilities, water disposal facilities, tank batteries that cannot be associated with an API number, water injection wells without an API number, etc.)

b) This form calculates emissions from the following sources:

Stationary Engines
Heaters
Tanks
Dehydration Units
Pneumatic Pumps
Pneumatic Controllers
Fugitives
Venting and Blowdown activities
Truck Loading
Other Emission Sources (Amine Units, Evaporation Ponds, etc.)
On-Road Mobile
Non-Road Mobile (i.e. Construction equipment, Rig moves, Snow removal, etc.)

c) Emissions for each of the sources listed above are calculated on separate tabs. Emissions from all sources at each facility are grouped together on the **Facility Summary** Tab. Emissions for the entire company are summed together on the **Operator Summary** Tab.

d) At the top of each emissions calculation tab there is a section highlighted in green for the operator to indicate whether or not that type of equipment was operated during the inventory period. This section must be filled out on each tab.

e) The emissions calculation tabs contain one or more tables that calculate emissions. Operators are to input the requested information in the white and blue shaded cells. The gray shaded cells contain formulas and values that are locked. Operators cannot and should not change these cells.

f) In order to calculate emissions properly, operators must supply the requested process information (i.e. gas, oil, and water processed by the facility as well as the number of operation days) on the Facility Summary tab. To calculate fugitive emissions properly, the operator must fill out the "Component Counts" section of the **Fugitive Components** tab. If the "General" emission factor group is selected on the **Facility Summary** tab the operator must provide gas, light oil, heavy oil, and produced water extended hydrocarbon analyses as well as tank flashing, tank standing, tank working/breathing, and truck loading emissions or emission factors to calculate these values.

g) Supply speciated VOC emissions where possible.

h) The field gas heat content is estimated to be 1,020 Btu/cf.

i) There are 8,760 hours in a year, 8,784 in a leap year. Additionally, there are 1,416 hours between February 1 and March 31; 1,440 in a leap year.

j) To calculate tank and truck loading emissions this form assumes tank geometry as well as truck loading parameters. These assumptions will be described in greater detail in the Tanks and Truck Loading sections below. If you do not agree with the assumption you will be required to calculate these emissions using a method approved by the DEQ-AQD.

k) The AQD District Map below shows the entire state of Wyoming in five separate compliance districts. The respective District Engineers are listed along with their contact information.

l) The UGRB Area Map below shows the boundary of the Wyoming Ozone Non-Attainment area (Also referred to as the Upper Green River Basin). Use this map to determine if your facilities are within the Non-Attainment area. Facilities outside this area will not be required to submit UGRB inventories. If you require more assistance with this, you can consult the following website: http://deq.state.wy.us/aqd/Ozone%20Main.asp or contact Mr. Brett Davis or Mr. Brian Bohlmann.

m) The SPRB Boundary Map below shows the boundary of the Southern Powder River Basin. Use this map to determine if your facilities are within this area. Facilities outside this area will not be required to submit SPRB inventories. If you require more assistance with this, please contact Mr. Brett Davis or Mr. Brian Bohlmann.

n) Be aware that this inventory form utilizes Microsoft Excel tables. Tables have attributes that differ from normal excel spreadsheets. Certain functions may or may not be allowed. Tables were utilized to assist operators in submitting standardized inventory forms. If you require assistance with the tables in this inventory form, please contact Mr. Brett Davis.

o) Please also be aware that inventory files can be very large (i.e. 30+ MB). Save often. If you have trouble opening, saving, or calculating values using these excel workbooks you may want to submit multiple smaller excel workbooks instead of one large excel workbook. Please contact Mr. Brett Davis if you require any assistance.

p) Comments can be made about the inventory on the Operator Comments tab. Please direct all questions to either …

   Brett Davis (307-777-3366, brett.davis@wyo.gov)

   … or …

   Brian Bohlmann (307-777-6993, brian.bohlmann@wyo.gov)

q) Below are instructions for providing inventory information on each tab. Carefully read the instruction and report your facilities accordingly. The DEQ-AQD is aware that not all oil and gas facilities are similar. If you are unsure about how to report a specific operation, please call Mr. Brett Davis.

r) When you have completed filling out this inventory form, please follow the instruction at the end of this document to submit the inventory.

2. **Facility Summary** Tab Instructions
   a) Provide the requested information in rows 5-6: Inventory Year, Inventory Type (Annual or Winter), Company Name, Contact Name, Mailing Address, Contact Phone, & Contact E-mail.
   b) Enter facility information as indicated on this tab.
      i. Information about each facility is requested in columns D-P.
      ii. Beginning in row 12, enter all of the requested information for your company's first facility. (Cells D12-P12)
      iii. In row 13, enter all of the requested information for your company's second facility. (Cells D13-P13)
      iv. Repeat this process until all of your company's facilities have been entered in this spreadsheet.
      v. If more than one row is needed to report the emissions from a facility (i.e. a facility has more than one engine, more than 4 heaters, more than one dehydration unit, multiple types of pneumatic devices, or multiple types of other emissions sources ... etc.), leave one blank row below the facility's first row for each additional row needed. DEQ staff will sum the emission for the facility after it has been submitted.
   c) Column D of this tab requests the operator to select an "Emission Factor Group". Follow the instructions below to determine the appropriate emission factor group for each facility. Please keep in mind that you can only select emission factor groups that have been included on this inventory form. Also, please be aware that the former Non-JPDA emission factor group has been divided into multiple, smaller, more representative emission factor groups.
      i. If the reported facility processed produced oil, gas, or water from well sites, follow the instructions below.
         (1) Determine the companies and wells from which the facility receives its feed.
         (2) Download the file Emission_Factor_Groups_web_Pivot_Table.xlsx from http://deq.state.wy.us/aqd/Resources-Emission%20Inventories/Forms/Emission_Factor_Groups_Pivot_Table.xlsx
         (3) Follow the instructions on the Instructions tab of Emission_Factor_Groups_web_Pivot_Table.xlsx.
         (4) If you are still unsure which emission factor group to use, please contact WDEQ.
         (5) Be aware the multiple emission factor groups can be used on one emissions inventory form.
         (6) Selecting an emission factor group will use emission factors developed by the WDEQ-AQD to calculate emissions from tank flashing, tank standing, tank working, truck loading, pneumatics, fugitives, and venting activities.
         (7) If the "General" Emission Factor group is selected, the operator must provide wet gas, light oil, heavy oil, and produce water extended hydrocarbon analyses as well as tank and truck loading emissions or tank and truck loading emission factors. See the "Extended HC Analyses" and "Tank Factors" sections below for further direction.
      ii. If the reported facility did not process produced oil, gas, or water from well sites, you must use the "General" emission factor group. For more options concerning the "General" emission factor group see section labeled "Instructions for Specific Cases" below.
   d) Space is provided to report 30 or 300 individual facilities (depending on which size file was downloaded). If additional rows are required please follow the instructions below:
      i. Select the last row (row 43 or 312 depending on which size file was downloaded).
      ii. Insert the required number of additional rows above the last row. Formulas from the above rows should populate the recently added rows (due to the utilization of Microsoft Excel tables). If not, please contact Mr. Brett Davis.

iii. Repeat this process for the following tabs: Fac Factors, Stationary Engines, Heaters, Tanks, Dehys, Pneumatic Pumps, Pneumatic Controllers, Fugitives, Venting & Blowdowns, Truck Loading, & Other Emissions Sources.

e) The reported facilities cannot be able to be associated with an API number in order to use this form.
   i. Compressor stations are to be reported on this form.
   ii. Liquids gathering facilities are to be reported on this form.
   iii. Tank batteries that are not associated with an API number are to be reported on this form.
   iv. Gas processing facilities are to be reported on this form.
   v. Water disposal facilities are to be reported on this form.
   vi. Tank batteries that hold production from well sites should be reported using the production site form.
   vii. Compressor engines located at well sites should be reported using the production site form.
   viii. Dehydration units located at well sites should be reported using the production site form.
   ix. Water disposal wells with an API number should be reported using the production site form.
   x. If you are still unsure whether or not a facility can be reported using this form, please contact WDEQ.

f) Each facility must be accompanied by WGS 84 latitude/longitude coordinates.

3. **Fac Factors** Tab Instructions
   a) There are no operator inputs required on this tab. However, if you needed to add extra rows to the **Facility Summary** tab, please add the same number of rows to this tab as well (See section 2.d above).

4. **Stationary Engines** Tab Instructions
   a) If no stationary engines operated at the reported facilities, please indicate as such in the space provided at the top of this tab.
   b) Enter engine information in columns C-I.
      i. Engine horsepower, average load, and operating hours (Columns G-I) must be supplied in order for the sheet to calculate emissions.
   c) Enter g/hp-hr emissions factors in columns J-V. Use tested engine emission factors where available.
   d) Be sure to include an emission factor basis in column W.
   e) Space is provided to report one stationary engine at each facility. If more than one stationary engine operated at a particular facility, this facility will require more than one row. Follow the instructions for reporting a facility on multiple rows (Section 2.b.v above).
   f) Please ensure that this tab has enough rows to cover all the facilities reported on the **Facility Summary** tab. If not, follow the instructions for adding rows (Section 2.d above)

5. **Heaters** Tab Instructions
   a) If no heaters operated at the reported facilities, please indicate as such in the space provided at the top of this tab.
   b) Reported all heaters with operating hours, and a size (in millions of BTU's per hour).
   c) Space is provided to report four heaters at each facility. If more than four heaters operated at a particular facility, this facility will require more than one row. Follow the instructions for reporting a facility on multiple rows (Section 2.b.v above).
   d) Please ensure that this tab has enough rows to cover all the facilities reported on the **Facility Summary** tab. If not, follow the instructions for adding rows (Section 2.d above)

6. **Tanks** Tab Instructions
   a) If no tanks operated at the reported facilities, please indicate as such in the space provided at the top of this tab.
   b) Please enter all of the requested information in columns I-Q.
      i. Each facility with reported production must also be reported with the following information:
         (1) Number of tanks.
         (2) Tank operating hours.
      ii. These inputs are necessary for calculating emissions with the supplied emission factors.
      iii. Tank operating hours should be reported as the number of hours that a tank contained liquids (i.e. tanks may have liquids in them even when the facility was not operating).
   c) Columns R-BG and BN-BQ contain emission factor formulas developed by WDEQ-AQD. These formulas calculate tank flashing emissions, tank standing emissions, tank working/breathing emissions, the flow rate of tank gas to control devices, and the heat content of gas to control devices.
      i. These formulas use the amount of oil and water processed to calculate the emissions from tanks.
      ii. These emission factors include standing-working-breathing emissions. Thus, you no longer need to calculate these on your own.
      iii. You will notice that these formulas are unlocked. If you did not select the "General" emission factor group on the Facility Summary tab, DO NOT CHANGE THESE FORMULAS.
      iv. If you selected the "General" emission factor group on the Facility Summary tab, you can either supply your own throughput based emission factors on the **Tank Factors** tab or delete these formulas and add calculated uncontrolled tank flashing emissions values. When using either of these two options the operator must use an average liquid composition and an approved method as listed in the WDEQ-AQD's Oil & Gas Permitting Guidance Document to calculate flashing and standing-working-breathing (S-W-B) losses from condensate, oil, and water tanks at the facility.
      v. If you selected the "General" emission factor group on the **Facility Summary** tab, indicate the methodology used to calculate emissions from tanks in column Q.
      vi. If your company's facilities belong to the "General" emission factor group, see the "Instructions for Specific Cases" section for reporting these facilities using a different emissions factor group.
   d) Uncontrolled Standing-Working-Breathing (SWB) emissions are calculated by the embedded emission factors. These emission factors assume the below tank parameters. If you feel that your company's tanks are not adequately represented by the below assumptions, you must provide your own flashing and standing-working-breathing emissions or emission factors.
      i. Tanks are assumed to be 400 bbl vertical cylinders with a dome roof and painted light grey.
      ii. Tanks are assumed to have a height of 20 ft and diameter of 12 ft.
      iii. Tanks are assumed to be 50% full on average and never more than 90% full.
   e) Indicate whether the tanks at each facility are controlled or not in column N.
   f) Indicate the type of controls (i.e. flare or Vapor Recovery Unit) on tanks at each facility in column O.
   g) If tanks at facilities are controlled by flares or other combustion devices, emission factors will calculate the amount of gas combusted. However, operators must supply the pilot gas flow rate (scf/hr) and heat value (btu/scf) in columns BR-BS.
   h) Enter the hours of control device downtime in column P.
   i) Please ensure that this tab has enough rows to cover all the facilities reported on the **Facility Summary** tab. If not, follow the instructions for adding rows (Section 2.d above)

7. **Dehys** Tab Instructions
   a) If no dehydration units operated at the reported facilities, please indicate as such in the space provided at the top of this tab.
   b) If the dehydration unit at a facility is operated by a company other than the one submitting the inventory, please indicate the name of that company in column D.
   c) Each reported dehydration unit must have operating hours reported in column F.
   d) Using GRI GLYCalc (Or another approved program) and actual glycol pump circulation rates, calculate uncontrolled emissions from the dehydration unit and enter uncontrolled emissions into columns H-AW.
   e) Indicate whether the dehydration units at each facility are controlled or not in column BB.
   f) Indicate the type of controls (flare or Vapor Recovery Unit) on dehydration units at each facility in column BC.
   g) If dehydration units at facilities are controlled by flares or other combustion devices, enter the following information.
      i. Enter the flash gas flow rate (scf/hr) and heat value (btu/scf) in columns BD-BE.
      ii. Enter pilot gas flow rate (scf/hr) and heat value (btu/scf) in columns BF-BG.
   h) Enter the hours of control device downtime in column BH.
   i) Indicate the methodology used to calculate emissions from dehydration units in column BI.
   j) Space is provided to report one dehydration unit at each facility. If more than one dehydration unit operated at a particular facility, this facility will require more than one row. Follow the instructions for reporting a facility on multiple rows (Section 2.b.v above).
   k) Please ensure that this tab has enough rows to cover all the facilities reported on the **Facility Summary** tab. If not, follow the instructions for adding rows (Section 2.d above)

8. **Pneumatic Pumps** Tab Instructions
   a) If no pneumatic pumps operated at the reported facilities, please indicate as such in the space provided at the top of this tab.
   b) Keep in mind that GRI GLYCalc accounts for the emission from glycol circulation pumps. If you used this software to calculate emissions from dehydration units, do not include glycol circulation pumps on this tab.
   c) Enter the number of pneumatic pumps operating at each facility, the average vent rate (scf/hr), the vent gas heat content (BTU/scf), and the average operating hours of the pumps in columns E-H.
   d) Indicate whether the pneumatic pumps at each facility are controlled or not in column I.
   e) Indicate the type of controls (flare or Vapor Recovery Unit) on pneumatic pumps at each facility in column J.
   f) Enter the hours of control device downtime in column K.
   g) Space is provided to report one type of pneumatic pump (i.e. one average vent rate) at each facility. If more than one type of pneumatic pump operated at a particular facility, this facility will require more than one row. Follow the instructions for reporting a facility on multiple rows (Section 2.b.v above).
   h) Please ensure that this tab has enough rows to cover all the facilities reported on the **Facility Summary** tab. If not, follow the instructions for adding rows (Section 2.d above)

9. **Pneumatic Controllers** Tab Instructions
   a) If no pneumatic controllers operated at the reported facilities, please indicate as such in the space provided at the top of this tab.
   b) Enter the number of pneumatic controllers operating at each facility, the average vent rate (scf/hr), the vent gas heat content (BTU/scf), and the average operating hours of the controllers in columns E-H.
   c) Indicate whether pneumatic controllers at each facility are controlled or not in column I.
   d) Indicate the type of controls (flare or Vapor Recovery Unit) on pneumatic controllers at each facility in column J.
   e) Enter the hours of control device downtime in column K.
   f) Space is provided to report one type of pneumatic controller (i.e. one average vent rate) at each facility. If more than one type of pneumatic controller operated at a particular facility, this facility will require more than one row. Follow the instructions for reporting a facility on multiple rows (Section 2.b.v above).
   g) Please ensure that this tab has enough rows to cover all the facilities reported on the **Facility Summary** tab. If not, follow the instructions for adding rows (Section 2.d above)

10. **Fugitives** Tab Instructions
   a) There are no operator inputs required on this tab. However, if you needed to add extra rows to the **Facility Summary** tab, please add the same number of rows to this tab as well (See section 2.d above).

11. **Fugitive Components** Tab Instructions
   a) Input the total number of components associated with gas, heavy oil, light oil, and produced water from all of the reported facilities in the range C11-F16. (It is suggested that the components from one representative facility be counted using a piping and instrumentation diagram. Use this count to then estimate the total components for all of the reported facilities.)
   b) Based on the number of facilities reported on the Facility Summary tab, an average component count per facility is calculated. Fugitive emission factors for each facility are then generated using this value and the gas and liquid analyses in this workbook.
   c) Remember that fugitive emission cannot be calculated without using the component counts provided on this tab.
   d) Remember that if you selected the "General" emission factor group on the **Facility Summary** tab, you must provide wet gas, light oil, heavy oil, and produce water analyses in order to properly calculate fugitive emissions. See the instructions for the **Extended HC Analyses** tabs below.

12. **Venting & Blowdowns** Tab Instructions

a) If no venting operations were performed at the reported facilities, please indicate as such in the space provided at the top of this tab.
b) Enter the number of blowdowns that occurred at each facility, the average vent rate (scf/hr), the vent gas heat content (BTU/scf), and the average length of venting in columns E-H.
c) Indicate whether the venting at each facility was controlled or not in column I.
d) Indicate the type of controls (flare or Vapor Recovery Unit) on venting operations at each facility in column J.
e) If venting operations at facilities are controlled by flares or other combustion devices, enter the flow rate of gas to the combustor in column K.
f) Enter the hours of control device downtime in column L.
g) Space is provided to report one type of blowdown (i.e. one average vent rate) at each facility. If more than one type of blowdown was performed at a particular facility, this facility will require more than one row. Follow the instructions for reporting a facility on multiple rows (Section 2.b.v above).
h) Please ensure that this tab has enough rows to cover all the facilities reported on the **Facility Summary** tab. If not, follow the instructions for adding rows (Section 2.d above)

13. **Truck Loading** Tab Instructions

a) If no truck loading was performed at any of the reported facilities during the inventory time frame, please indicate as such in the space provided at the top of this tab.
b) For each facility, indicate in column E whether or not liquids were trucked from the specified facility.
c) Truck loading emissions will be calculated assuming splash loading of a dedicated truck or rail tank car.
    i. If you chose to use the "General" emission factor on the **Facility Summary** Tab or you feel that the above assumptions do not adequately reflect the operations of your company's loading, you must either determine your own truck loading emission factors or calculate your own truck loading emissions.
    ii. If you choose to determine your own truck loading emission factors, see the section below regarding the **Tank Factors** tab.
    iii. If you choose to enter your own calculated truck loading emissions, please enter the tons/year of truck loading emissions for each facility in column AY. DO NOT change these formulas unless you have chosen this method of reporting.
d) Indicate whether the truck loading at each facility was controlled or not in column F.
e) Indicate the type of controls (flare or Vapor Recovery Unit) on truck loading operations at each facility in column G.
f) If truck loading operations at facilities are controlled by flares or other combustion devices, enter the flow rate of gas to the combustor in column H.
g) Please ensure that this tab has enough rows to cover all the facilities reported on the Facility Summary tab. If not, follow the instructions for adding rows (Section 2.d above)

14. **Other Emission Sources** Tab Instructions
    a) Use this tab to report emissions from all other emission sources at each facility that have not already been covered by other tabs. (Amine Units, Evaporation Ponds, etc.)
    b) Indicate the type of source being reported in column G.
    c) Indicate the basis of emissions in column H.
    d) Provide the operating hours in column K.
    e) If the source processed gas, report the gas throughput in column I.
    f) If the source processed gas with $H_2S$, report the percent of $H_2S$ in the gas in column J.
    g) Report emissions for each applicable pollutant in columns L-BG.
    h) If the source was controlled, indicate as such in column BN.
    i) Indicate the type of controls on the source in column BM.
    j) If the source was controlled by a combustor, indicate the amount of gas sent to the combustor and its heat content in column BP-BQ.
    k) If the source was controlled by a combustor, indicate the amout of pilot gas sent to the combustor and its heat content in column BR-BS.
    l) Enter the hours of control device downtime in column CS.
    m) Please ensure that this tab has enough rows to cover all the facilities reported on the Facility Summary tab. If not, follow the instructions for adding rows (Section 2.d above).

15. **On-Road Mobile** Tab Instructions
    a) On-Road mobile sources include but are not limited to liquid haul trucks, operator vehicles, and other vehicles.
    b) If no on-road mobile activity occurred during the inventory time frame, please indicate as such in the space provided at the top of this tab.
    c) Enter the Total Miles traveled, Average Week Day Miles traveled, Average Week End Miles traveled, and Average Vehicle Speed for each type of vehicle (Light Duty Gasoline, Heavy Duty Gasoline, Light Duty Diesel, and Heavy Duty Diesel) in each county. Keep in mind that the counties are separated by their district.

16. **Non-Road Mobile** Tab Instructions
    a) Non-road mobile sources include but are not limited to: construction equipment used for road, equipment, and pipeline construction; snow removal; and equipment removal.
    b) If non-road mobile activities were not performed during the inventory time frame, please indicate as such in the space provided at the top of this tab.
    c) Enter the Date, Legal location, County, and Operating Hours of non-road mobile activities in columns A-H.
    d) Enter the emissions for each activity in pounds per hour in columns I-O.
    e) Enter the operation type in column W and the basis of emissions in column X.
    f) Space is provided to report 40 individual non-road mobile activities. If additional rows are required please follow the instructions below:
        i. Select row 41.
        ii. Insert the required number of additional rows above row 41. Formulas from the above rows should populate the recently added rows (due to the utilization of Microsoft Excel tables). If not, please contact Mr. Brett Davis.

17. **Extended HC Analyses** Tabs Instructions
    a) This tab contains the extended hydrocarbon analyses that are used to calculate emissions from pneumatic devices, fugitives, and venting activities.
    b) If you selected an emission factor group other than "General" there are no required inputs on this tab.
    c) If you selected the "General" emission factor group, you must enter wet gas, light oil (API Gravity > 20), heavy oil (API Gravity < 20), and produced water extended hydrocarbon analyses (mol percent) in columns E, F, G, and H.
    d) The extended hydrocarbon analyses of all emission factor groups are within this tab. You can use this tab to determine if your company's throughput materials are similar in composition to other emission factor groups.

18. **Tank Factors** Tab Instructions
    a) This tab contains the emission factors developed by WDEQ-AQD to calculate tank flashing, tank standing, tank working/breathing, and truck loading emissions. The units of these emission factors are barrels of throughput per ton of emissions (bbl/ton). This tab also contains factors for calculating the amount of gas controlled by tank flares and its associated heat content.
    b) If you selected the "General" emission factor group on the Facility Summary tab, you can either supply your own production based emission factors (of the same units) in columns C-N of this tab or delete the emission factor formulas in the **Tanks** and **Truck Loading** tabs and input calculated values for tank flashing emissions, tank standing emissions, tank working/breathing emissions, flow rates of controlled gas to control devices, heat contents of controlled gas to control devices, and truck loading emissions. When using either of these two options the operator must use an average liquid composition and an approved method as listed in the WDEQ-AQD's Oil & Gas Permitting Guidance Document to calculate flashing, standing-working-breathing (S-W-B) losses, and truck loading losses from condensate, oil, and water tanks at the facility.
    c) If you did not select the "General" emission factor group on the **Facility Summary** tab, no inputs are required by the operator on this tab.

19. **Operator Comments** Tab Instructions
    a) Use this tab to make any comments you or your company may have about this inventory.
    b) Use this tab to alert WDEQ of any abnormalities that might be found in this inventory. Examples include:
        i. A reported production site was drilled in the reported inventory year but not completed during this same year.
        ii. Tank emission for production sites will be reported at a liquids gathering station instead of on this inventory form.
        iii. A reported well did not produce but did have other operating equipment with emissions.
        iv. Reported production sites contain emissions producing equipment that is operated by another company and thus not included on this inventory form.
        v. The rationale for using emission factor groups that differ from the emission factor groups that wells belong to.
    c) Do not use this tab to report any emissions values from sources that are covered by the other calculation tabs.

## 20. Instructions for Specific Cases

a) Below are two options for reporting facilities that do not belong to an emission factor group or that belong to the "General" emissions factor group.

i. The preferred method is to obtain extended hydrocarbon analyses from the facilities and perform the necessary calculations.

(1) Enter the extended gas, light oil, heavy oil, and produced water analyses into the **Extended HC Analyses** tab.

(2) Calculate tank flashing emissions, tank standing emissions, tank working/breathing emissions, the flow rate and heat content of gas being flared from tanks, and truck loading emissions using the acquired extended hydrocarbon analyses.

The reason why this method is preferred is because it supplies more representative data to the divisions. Also, if your company submits the obtained extended hydrocarbon analyses for these wells along with the inventory the DEQ-AQD may be able to acquire enough analyses to create a representative emission factor group for your company's facilities in the future.

ii. Alternatively and in order to reduce the burden of calculation and sampling on operators, you can choose to report your company's facilities using a different emission factor group as long as you supply reasonable rationale to do so. Rationale can be based on the following.

(1) The extended hydrocarbon analysis of a given material (i.e. gas, light oil, heavy oil, and produced water) is similar to the average extended hydrocarbon analyses of that same material from a different emission factor group.

(2) The API gravity of the liquids processed by the facility is similar to the API gravity of the liquids from a different facility in a different emission factor group.

(3) The facility processed materials from the same field or formation as the wells in a different emission factor group.

If this method is chosen, please note in the **Operator Comments** tab which reported facilties belonged to the "general" emission factor group, the emission factor group that you chose to use for each of these facilities, and your rationale for doing so. Using a different emission factor group other than the one specified without rationale will cause your inventory to be rejected.

## 21. Website Upload Instructions

a) The Air Quality Division (AQD) has created a website to upload all emission inventories (Major, Minor, O&G Annual, O&G Winter). This website will be the portal for you to submit electronic data to the Emissions Inventory Program.

b) Instructions:

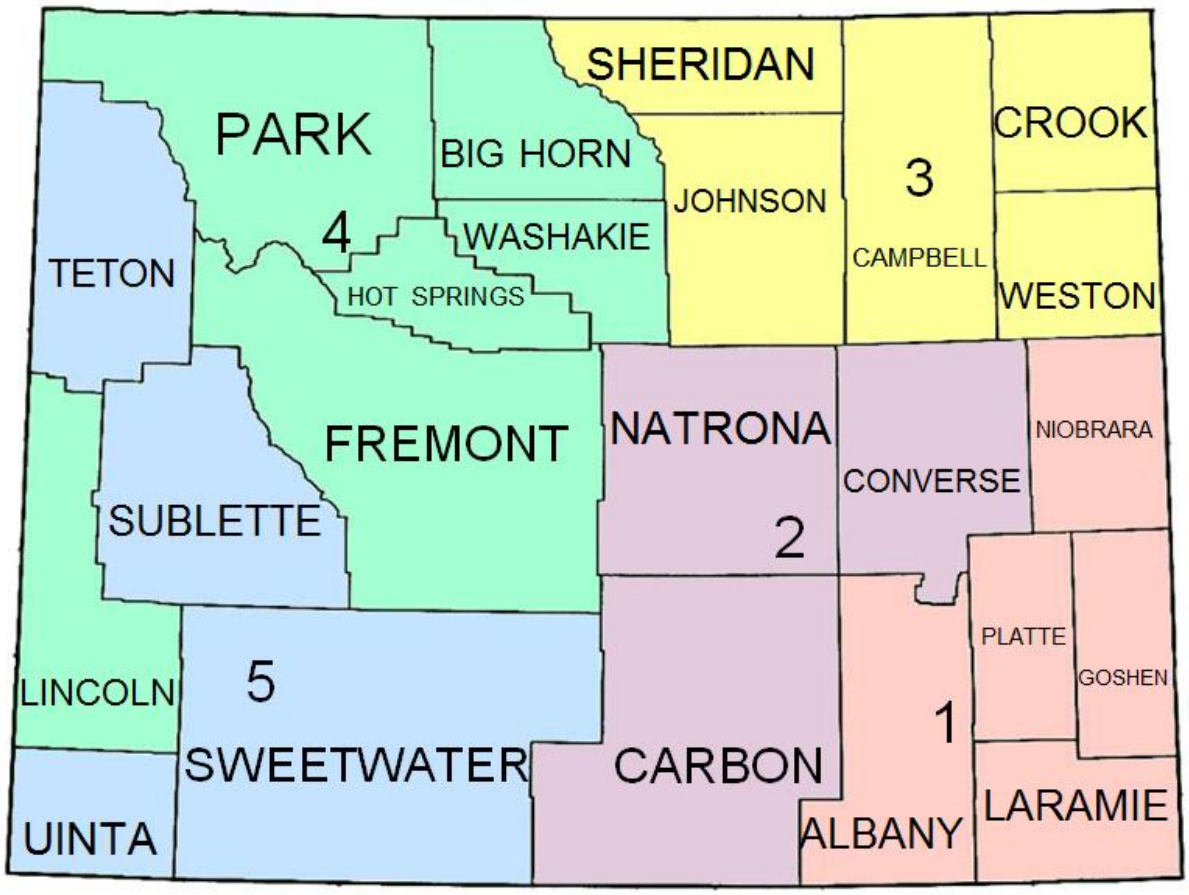
i. Go to: https://deq.state.wy.us/AQDFileUploads/LoginUser.aspx
ii. Enter your User Name: OilandGas
iii. Enter your Password: 1nventory4 (the number one, then nventory, then the number 4)
iv. After login, you will be directed to the AQD File Upload Utility page.
v. Use the Browse button to search your computer for the file(s) you wish to upload to AQD.
vi. Once you have the file(s) selected, press Open.
vii. The selected files should show up in the small box, left of the Browse button.
viii. Press the Upload File button.
ix. All the files you wish to upload should be listed in the Uploaded Files List.
x. You will see a message stating "Your file was uploaded, logged and e-mailed successfully." If you do not receive this message, please contact Mr. Davis or Mr. Bohlmann

c) File naming

i. To streamline the process, your uploaded file(s) need to be named using the following convention:
(1) 4-digit year;
(2) underscore;
(3) inventory type;
(4) underscore;
(5) Company Name;
(6) underscore;
(7) any additional info you feel is needed

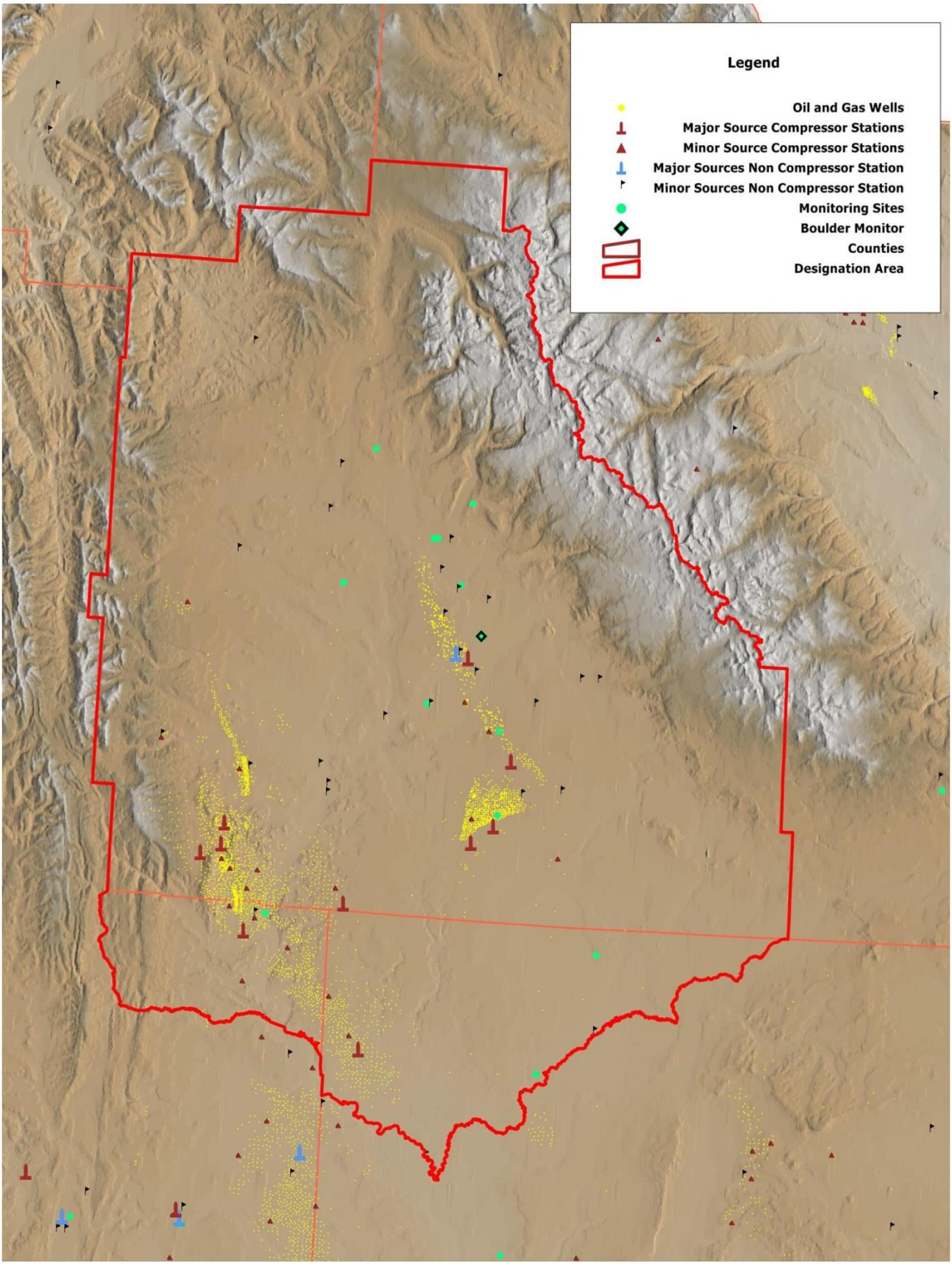
ii. Examples
(1) 2011_Triennial_Company_Production
(2) 2011_UGRBWinter_Company_Compresssor_Station

## 22. AQD District Map




| | Name | Mailing Address | City | Zip | Phone | e-mail |
|---|---|---|---|---|---|---|
| **District 1** Engineer | Glenn Spangler | 122 W. 25th St, Herschler Building 2-E | Cheyenne | 82002 | 307-777-3787 | glenn.spangler@wyo.gov |
| **District 2** Engineer | Chris Hanify | 152 N. Durbin St, Suite 100 | Casper | 82601 | 307-473-3470 | Chris.Hanify@wyo.gov |
| **District 3** Engineer | Tanner Shatto | 2100 West 5th St | Sheridan | 82801 | 307-675-5626 | tanner.shatto@wyo.gov |
| **District 4** Engineer | Greg Meeker | 510 Meadowview Dr | Lander | 82520 | 307-332-6755 | Greg.Meeker@wyo.gov |
| **District 5** Engineer | Tony Hoyt | 510 Meadowview Dr | Lander | 82520 | 307-332-6755 | Tony.Hoyt@wyo.gov |
| **AQD Administrator** | Steven Dietrich | 122 W. 25th St, Herschler Building 2-E | Cheyenne | 82002 | 307-777-3746 | Steve.Dietrich@wyo.gov |
| **SSC Program Manager** | Fred Dilella | 122 W. 25th St, Herschler Building 2-E | Cheyenne | 82002 | 307-777-3791 | Fred.Dilella@wyo.gov |
| **Emissions Inventory Supervisor** | Brian Bohlmann | 122 W. 25th St, Herschler Building 2-E | Cheyenne | 82002 | 307-777-6993 | Brian.Bohlmann@wyo.gov |
| **Emissions Inventory** | Brett Davis | 122 W. 25th St, Herschler Building 2-E | Cheyenne | 82002 | 307-777-3366 | Brett.Davis@wyo.gov |

## 23. UGRB Boundary map



## 24. SPRB Boundary map